

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-46. (*cancelled*).

47. (*currently amended*) An apparatus ~~for synthesizing a polymer~~, comprising:

a carousel comprising a base;

a plurality of liquid conduits formed within said carousel; [and]

a plurality of reaction mounts removably insertable onto said plurality of liquid conduits, wherein each liquid conduit forms a chamber below a corresponding reaction mount, wherein each reaction mount is adapted to receive at least one of a plurality of reagents for synthesizing [the] a polymer; and

a drain system comprising a plurality of drain lines, whereby liquids are drained through said plurality of drain lines by differential pressure.

48. (*previously presented*) The apparatus of claim 47, further comprising:

at least one reaction well formed within each reaction mount, wherein said at least one reaction well includes a drainage hole that communicates with the chamber formed below the reaction mount having said at least one reaction well.

49. *(currently amended)* The apparatus of claim 47, further comprising:
a plurality of exit ports protruding from [the] said base of said carousel,
wherein each exit port enables drainage from a corresponding liquid conduit.

50. *(previously presented)* The apparatus of claim 48, further comprising:
at least one engagement port positioned under said carousel, wherein said at
least one engagement port is raised or lowered to engage or disengage with at least one of
said plurality of exit ports, wherein said at least one engagement port is connected to a
vacuum line adapted to drain liquid from the engaged exit port.

51. *(currently amended)* The apparatus of claim 47, further comprising:
a plurality of [work] stations positioned above said carousel, wherein said
stations perform one or more physical steps selected from the group consisting of fluid
delivery, fluid incubation, fluid drainage, temperature control, and optical analysis ~~each~~
~~work station performs a physical step in a series of physical steps for synthesizing the~~
~~polymer.~~

52. *(currently amended)* The apparatus of claim 51, wherein at least one of said
plurality of [work] said stations is a dispensing module adapted to deliver at least one of said
plurality of reagents for synthesizing [the] said polymer to a reaction mount from said
plurality of reaction mounts.

53. *(currently amended)* An apparatus ~~for synthesizing a polymer~~, comprising:
a carousel having a plurality of reaction mounts coupled to a first side and a plurality of exit ports protruding from a second side, wherein each exit port communicates with a corresponding reaction mount adapted to receive at least one reagent from a plurality of reagents for synthesizing [the] a polymer; [and]
at least one engagement port positioned under said carousel, wherein said at least one engagement port is raised or lowered to engage or disengage with at least one of said plurality of exit ports, wherein said at least one engagement port is connected to a vacuum line adapted to drain liquid from the engaged exit port; and
a drain system comprising a plurality of drain lines, whereby liquids are drained through said plurality of drain lines by differential pressure.

54. *(previously presented)* The apparatus of claim 53, further comprising:
a plurality of liquid conduits formed within said carousel, wherein said plurality of reaction mounts are removably insertable onto said plurality of liquid conduits, wherein each liquid conduit forms a chamber below a corresponding reaction mount, wherein each of said plurality of exit ports enables drainage from a corresponding liquid conduit.

55. *(currently amended)* The apparatus of claim 53, further comprising:
a plurality of [work] stations positioned above said carousel, wherein ~~each work station performs a physical step in a series of physical steps for synthesizing the~~

~~polymer~~ said stations perform one or more physical steps selected from the group consisting of fluid delivery, fluid incubation, fluid drainage, temperature control, and optical analysis.

56. *(currently amended)* An apparatus ~~for synthesizing a polymer~~, comprising:
 a carousel comprising a base and having a plurality of reaction mounts removably insertable onto a plurality of liquid conduits, wherein each liquid conduit forms a chamber below a corresponding reaction mount, wherein each reaction mount is adapted to receive at least one of a plurality of reagents for synthesizing a polymer; [and]
 a plurality of [work] stations positioned above said carousel, wherein ~~each work station performs a physical step in a series of physical steps for synthesizing the~~ ~~polymer~~ said stations perform one or more physical steps selected from the group consisting of fluid delivery, fluid incubation, fluid delivery, temperature control, and optical analysis;
and
 a drain system comprising a plurality of drain lines, whereby liquids are drained through said plurality of drain lines by differential pressure.

57. *(currently amended)* The apparatus of claim 56, wherein at least one of said plurality of [work] stations is a dispensing module adapted to deliver ~~a reagent~~ said at least one of a plurality of reagents for synthesizing [the] said polymer to a reaction mount from said plurality of reaction mounts.

58. *(previously presented)* The apparatus of claim 56, further comprising:

a plurality of reaction wells formed within each reaction mount, wherein each reaction well includes a drainage hole that communicates with the chamber formed below the reaction mount having said plurality of reaction wells.

59. *(previously presented)* The apparatus of claim 58, wherein said dispensing module moves radially relative to said carousel and is adapted to deliver a fluid to each reaction well within said reaction mount.

60. *(currently amended)* The apparatus of claim 56, wherein at least one of said plurality of [work] stations is a temperature controller adapted to regulate temperature at a reaction mount from said plurality of reaction mounts.

61. *(currently amended)* The apparatus of claim 56, wherein at least one of said plurality of [work] stations is an optical analyzer adapted to analyze [a] said polymer synthesis occurring at a reaction mount from said plurality of reaction mounts.

62. *(currently amended)* The apparatus of claim 56, further comprising:
a plurality of exit ports protruding from [the] said base of said carousel,
wherein each exit port enables drainage from a corresponding liquid conduit.

63. *(previously presented)* The apparatus of claim 62, further comprising:
at least one engagement port positioned under said carousel, wherein said at least one engagement port is raised or lowered to engage or disengage with at least one of

said plurality of exit ports, wherein said at least one engagement port is connected to a vacuum line adapted to drain liquid from the engaged exit port.